

SECURITIES AND EXCHANGE COMMISSION

Washington, D. C. 20549

FORM 11-K

ANNUAL REPORT

Pursuant to Section 15(d) of the Securities Exchange Act of 1934

For the Fiscal Year Ended December 31, 2004

PROCESSED

JUN 2 4 2005

TI 401(K) SAVINGS PLAN

THOMSON FINANCIAL

TEXAS INSTRUMENTS INCORPORATED

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Report of Independent Registered Public Accounting Firm

The Administration Committee TI 401(k) Savings Plan

We have audited the accompanying statements of net assets available for benefits of the TI 401(k) Savings Plan as of December 31, 2004 and 2003, and the related statement of changes in net assets available for benefits for the year ended December 31, 2004. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. We were not engaged to perform an audit of the Plan's internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the net assets available for benefits of the Plan at December 31, 2004 and 2003, and the changes in its net assets available for benefits for the year ended December 31, 2004, in conformity with U.S. generally accepted accounting principles.

Our audits were performed for the purpose of forming an opinion on the financial statements taken as a whole. The accompanying supplemental schedule of assets (held at end of year) as of December 31, 2004, is presented for purposes of additional analysis and is not a required part of the financial statements but is supplementary information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. This supplemental schedule is the responsibility of the Plan's management. The supplemental schedule has been subjected to the auditing procedures applied in our audits of the financial statements and, in our opinion, is fairly stated in all material respects in relation to the financial statements taken as a whole.

/s/ Ernst & Young LLP Ernst & Jacob LLP

April 14, 2005

Statements of Net Assets Available for Benefits

	December 31	
	2004	2003
	(In tho	usands)
Assets		
Plan interest in Texas Instruments Incorporated		
Defined Contribution Plan Master Trust	\$ 1,225,335	\$ 1,378,158
Participant notes receivable	23,860	24,500
Employer contributions receivable	_	125
Employee contributions receivable	_	471
Dividends and interest receivable	264	153
Total assets	1,249,459	1,403,407
Liabilities		
Accrued expenses	87	107
Net assets available for benefits	\$ 1,249,372	\$ 1,403,300

See accompanying notes.

Statement of Changes in Net Assets Available for Benefits

Year ended December 31, 2004 (In thousands)

Plan interest in Texas Instruments Incorporated Defined Contribution Plan Master Trust investment loss	\$ (111,446)
Contributions:	
Employer	7,248
Employee	28,080
Rollover	25
	35,353
Benefits paid to participants	(76,812)
Transfer of net assets between plans within the Master Trust	(752)
Administrative expenses	(271)
	(77,835)
Net decrease	(153,928)
Net assets available for benefits:	
Beginning of year	1,403,300
End of year	\$ 1,249,372

See accompanying notes.

Notes to Financial Statements

December 31, 2004

1. Description of the Plan

The following description of the TI 401(k) Savings Plan (the Plan) provides only general information. Participants should refer to the Plan document for a more complete description of the Plan's provisions.

General

The Plan was adopted effective January 1, 1973, by Texas Instruments Incorporated and participating subsidiaries (TI or the Company). Effective January 1, 1998, the Company adopted the TI U.S. Employees Retirement and Profit Sharing Plan (named TI Contribution and 401(k) Savings Plan effective July 1, 2000; hereafter, the "Contribution and 401(k) Plan"). Prior to January 1, 1998, each participant was given an election to either remain in the Plan or discontinue participation and have assets representing the value of his or her Plan accounts transferred into the Contribution and 401(k) Plan. Such assets were transferred to the Contribution and 401(k) Plan effective January 5, 1998. The Company closed the Plan to new participants as of December 1, 1997.

In the fall of 2000, Texas Instruments Tucson Corporation employees who were participants in the Burr-Brown Corporation's Pension Plan (which was merged into the TI Employees Pension Plan effective January 1, 2001) and who elected to continue accrual of accumulation of credited service under the Burr-Brown Corporation's Pension Plan, could elect, effective January 1, 2001, to become participants in the Plan.

Additionally, account balances of Texas Instruments Tucson Corporation employees who were participants in the Burr-Brown Corporation Future Investment Trust (the BBC FIT Plan) and who did not elect to take a distribution from the BBC FIT Plan by August 2, 2002, were transferred to either the Plan or the Contribution and 401(k) Plan on August 19, 2002.

Effective January 1, 2002, the Plan was amended and restated to incorporate subsequent amendments to the Plan, to comply with changes in applicable law, and to make certain other changes subject to the approval of the IRS.

The Plan is a defined contribution plan designed to comply with the Employee Retirement Income Security Act of 1974, as amended (ERISA). The Plan is administered by the Administration Committee of the Company.

Notes to Financial Statements (continued)

1. Description of the Plan (continued)

Eligibility/Participation

Participants in this Plan are those individuals who were participants in the Plan on December 1, 1997, and who, as of December 12, 1997, elected to continue participation in this Plan and not participate in the Contribution and 401(k) Plan or those Texas Instruments Tucson Corporation employees who elected to begin participating in the Plan on January 1, 2001, or were transferred into the Plan on August 19, 2002. Former participants in this Plan who elected to participate in the Contribution and 401(k) Plan by December 12, 1997, are ineligible to become participants in the Plan.

Participants' Accounts

Participants may have one or more of the following accounts within the Plan: a 401(k) Account, which consists of 401(k) contributions, employer matching contributions, and rollovers from other qualified plans; a Contribution Account for contributions made pursuant to the Contribution and 401(k) Plan that were subsequently transferred to the Plan; a Universal Profit Sharing Account (Profit Sharing Account); and a Voluntary Employee Contribution Account (VEC Account).

Each participant's 401(k) Account is credited with the participant's salary deferrals, employer matching contributions, and earnings and losses thereon. Each participant's Profit Sharing Account, Contribution Account, and VEC Account are credited with earnings and losses. Allocations of Plan earnings and losses are based on account balances. Expenses of administering the Plan and Trust are deducted from participants' accounts to the extent not paid by the Company.

Contributions

The Plan receives contributions from TI and from eligible TI employees. Participant contributions are made through periodic payroll deductions, which are limited to the lesser of the amount permitted by Plan provisions or the Internal Revenue Code (the Code) limitation (\$13,000 for 2004). Such contributions are credited to each participant's 401(k) Account. The maximum contribution rate is 50% of the participant's compensation, as defined by the Plan.

Notes to Financial Statements (continued)

1. Description of the Plan (continued)

Effective November 1, 2002, the Plan was amended to offer catch-up contributions (contributions in excess of the limits discussed in the preceding paragraph, which contributions are described in the Economic Growth and Tax Relief Reconciliation Act of 2001) to participants who attained age 50 or older before the close of the Plan year.

TI matches participants' salary deferrals in an amount equal to 50% of the participants' salary deferrals, provided that the aggregate match not exceed 2% of the participant's eligible compensation, as defined by the Plan, for the Plan year. For the Texas Instruments Tucson Corporation participants who elected to participate in the Plan, TI matches participant's salary deferrals in an amount equal to 25% of the participant's salary deferrals not to exceed 3.75% of the participant's eligible compensation, as defined by the Plan, for the Plan year. The employer matching contributions are credited to each participant's 401(k) Account.

Prior to 1999, profit sharing contributions were made to a Profit Sharing Account for eligible employees. Effective January 1, 1999, the Plan was amended such that Company profit sharing contributions shall no longer be made.

Contributions to the VEC Account were discontinued as of January 1, 1987.

Investments

All investment assets of the Plan are held in various investment accounts of the Texas Instruments Incorporated Defined Contribution Plan Master Trust (Master Trust) under a trust agreement with Northern Trust Company (Northern Trust). The assets of the Contribution and 401(k) Plan are also held in the Master Trust. Investments in the Master Trust as of December 31, 2004 and 2003, are presented in Note 3. Plan ownership in the Master Trust is denominated in units. Units represent the value of participants' accounts in the Plan.

Interest and dividends and net appreciation (depreciation) in fair value of investments are allocated among the participating plans in the Master Trust based on the respective number of units held by each plan. Administrative expenses are allocated on a per participant basis. Contributions received, benefits paid, and directly attributable expenses of the participating plans effectively increase or decrease the number of units held by each plan.

Notes to Financial Statements (continued)

1. Description of the Plan (continued)

Participants may direct contributions and salary deferrals to be invested in and transferred among various investment funds currently provided.

Participant Notes Receivable

Effective August 1, 2001, the Administration Committee approved a change in the loan policy whereby all loans initiated subsequent to July 31, 2001, will become due and payable upon termination of employment if not due and payable by their terms before such time.

Each loan shall be deducted from a participant's account, as defined in the Plan document, shall be secured by that portion of the participant's vested account balance deducted for the loan, and shall be made for such periods of time, not to exceed five years (except in the case of a residential loan), upon such rate of interest, and subject to other limitations, terms, and conditions as the Administration Committee shall determine. The amount of loans available for each participant is limited, as described in the Plan document. Principal and interest are repaid through payroll deductions.

Distributions and Vesting

Upon termination of employment and after completion of five years of credited service, participants are entitled to a distribution of the full amount of their Contribution Account. A participant who has not completed five years of credited service, and who terminates other than by reason of retirement, death, or permanent disability, shall be entitled to receive a portion of his or her Contribution Account based on the years of credited service for vesting, as described in the Plan document. Notwithstanding the foregoing, a participant shall be fully vested in all amounts in his or her Contribution Account upon the attainment of age 65.

Participants are 100% vested in their 401(k), VEC, and Profit Sharing Accounts, and no forfeitures of a vested interest in such accounts shall take place for any reason under this Plan. Upon termination of employment of any participant, the participant shall be entitled to receive the full amount of these accounts subject to repayment of outstanding loans.

Notes to Financial Statements (continued)

1. Description of the Plan (continued)

Upon termination of employment because of retirement, permanent disability, or death, the full amount of his or her Plan accounts shall be payable to the participant or, in case of death, to the beneficiary, subject to applicable laws and the repayment of outstanding loans.

A participant whose account balances total less than \$1,000 will receive an automatic distribution 90 days after the date of his or her termination.

Withdrawals

A participant, while employed, has the right to withdraw an amount from his or her 401(k) Account and the vested interest in his or her Contribution Account on or after the earlier of his or her (i) attainment of age 59 1/2 years or (ii) becoming entitled to a distribution in accordance with the Plan provisions. Effective May 1, 2003, a participant, while employed, has the right to withdraw an amount from his or her 401(k) Account and the vested interest in his or her Contribution Account at any time after being determined to be disabled. A participant may withdraw an amount from his or her Profit Sharing Account at any time. Such withdrawals must equal at least the lesser of \$500 or the entire amount available for withdrawal.

Effective April 1, 2002, a participant shall have the right to withdraw any amount from his or her VEC Account at any time with a minimum withdrawal amount of \$500 or 100% of the account balance.

Certain further limitations on withdrawals are described in the Plan document.

Transfers Between Plans within the Master Trust

An employee who has incurred a break in credited service, as defined in the Plan document, shall not participate in the Plan during the break in credited service. Former participants and employees who have satisfied the requirements for participation in the Plan prior to incurring a break in credited service and who following such break again become employees shall not be eligible to again participate in the Plan. Upon rehire, such employee's Plan accounts shall be transferred to and the employee shall begin participating in the Contribution and 401(k) Plan. Included in the statement of changes in

Notes to Financial Statements (continued)

1. Description of the Plan (continued)

net assets available for benefits are transfer amounts from the Plan to the Contribution and 401(k) Plan representing the participant account balances of employees whom the Company has rehired.

Termination of the Plan

Although there is no current intention to do so, TI may discontinue the Plan by giving written notice to the Administration Committee and Plan trustee, subject to the provisions of ERISA. In the event of Plan termination, all participants are 100% vested in their account balances.

2. Summary of Significant Accounting Policies

Investment Valuation and Income Recognition

The investments are valued at fair value using quoted market prices for TI and other common stocks. Registered investment company shares are valued at fair value using published market prices, which represent the net asset value of shares held by the Plan at year-end. Common/collective trusts are valued at fair value based on the underlying investments of the trusts as determined by the sponsor of the trust. Cash equivalents are valued at cost, which approximates fair value. Participant loans are valued at their outstanding balances, which approximates fair value. Investment contracts were valued at contract value. Contract value represented contributions made plus interest at a guaranteed contract rate, less withdrawals and Plan expenses.

Effective April 1, 2002, contributions to new investment contracts were ceased. The remaining investment contracts at December 31, 2003, matured in 2004. Investment contracts included guaranteed investment contracts (with various insurance companies) during 2004 and at December 31, 2003. The rate at which interest accrued to investment contracts was 6.34% at December 31, 2003. The estimated fair value calculated for investment contracts in the Master Trust at December 31, 2003, approximates contract value. Considerable judgment is necessarily required in interpreting market data to develop the estimated fair value. In addition, fair values fluctuate on a daily basis. The use of different market assumptions and/or estimation methodologies may have a material effect on the estimated fair value amounts. Certain investment contracts were subject to adjustment upon early termination.

Notes to Financial Statements (continued)

2. Summary of Significant Accounting Policies (continued)

Purchases and sales of securities are recorded on a trade-date basis. Dividend income is recorded on the ex-dividend date. Interest income is recorded on the accrual basis.

The Plan invests in various investment securities that are exposed to various risks, such as interest rate, market, and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect participants' account balances and the amounts reported in the statements of net assets available for benefits.

Related-Party Transactions

Certain Plan investments in the common/collective trusts are managed by Northern Trust. Northern Trust is the trustee as defined by the Plan and, therefore, these transactions qualify as party-in-interest transactions.

Basis of Accounting

The financial statements of the Plan are prepared on the accrual basis of accounting. Benefit payments are recorded when paid.

Use of Estimates

The preparation of the financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

3. Interest in Master Trust

The Plan's investments are held in the Master Trust, which was established for the investment of assets of the Plan and the Contribution and 401(k) Plan sponsored by TI (see Note 1). The two participating plans have an undivided interest in the Master Trust. At December 31, 2004 and 2003, the Plan's percentage interest in the net assets of the Master Trust was approximately 44% and 45%, respectively.

Notes to Financial Statements (continued)

3. Interest in Master Trust (continued)

The following table presents the fair values of the investments, except for investment contracts, which is presented at contract value, for the Master Trust as of December 31:

	Master Trust			
		2004		2003
		(In tho	usan	ids)
Texas Instruments Incorporated Defined Contribution				
Plan Master Trust:				
Cash and cash equivalents	\$	10,079	\$	6,935
TI common stock		1,514,095		1,924,864
Registered investment companies		17,601		81,679
Common/collective trusts		1,240,715		1,004,728
Other common stocks		18,993		16,581
Other investments		807		856
Investment contracts				8,688
	\$	2,802,290	\$	3,044,331

The following table presents investment income (loss) for the Master Trust for the year ended December 31, 2004 (in thousands):

Net depreciation in fair value of TI common stock Net appreciation in fair value of registered	\$ (312,156)
	1.07/
investment companies	1,076
Net appreciation in fair value of common/collective trusts	83,901
Net depreciation in fair value of other common stocks	(566)
Net appreciation in fair value of other investments	30
Interest and dividends	9,706
	\$ (218,009)

4. Income Tax Status

The Plan has received a determination letter from the Internal Revenue Service (IRS) dated June 21, 2001, stating that the Plan is qualified under Section 401(a) of the Code and, therefore, the related trust is exempt from taxation. Subsequent to this determination by the IRS, the Plan was amended. Once qualified, the Plan is required to operate in conformity with the Code to maintain its qualification. The Plan Administrator believes the Plan is being operated in compliance with the applicable requirements of the Code and, therefore, believes that the Plan as amended is qualified and the related trust is tax-exempt.

Notes to Financial Statements (continued)

5. Reconciliation of Financial Statements to the Form 5500

The following is a reconciliation of net assets available for benefits per the financial statements to the Form 5500 (in thousands):

	December 31	
	2004	2003
Net assets available for benefits per the financial		
statements	\$ 1,249,372	\$ 1,403,300
Less: Benefits payable	(24)	(54)
Net assets available for benefits per the Form 5500	\$ 1,249,348	\$ 1,403,246

The following is a reconciliation of benefits paid to participants per the financial statements to the Form 5500 (in thousands):

	Year ended December 31, 2004	
Benefits paid to participants per the financial statements	\$ 76,812	
Add: Benefits payable at end of year	24	
Less: Benefits payable at beginning of year	(54)	
Benefits paid to participants per the Form 5500	\$ 76,782	

Benefits payable are recorded on the Form 5500 for payments to participants who requested payment prior to December 31 but had not been paid as of that date.

Supplemental Schedule

Schedule H; Line 4i – Schedule of Assets (Held At End of Year)

EIN: 75-0289970 Plan #: 017

December 31, 2004

(c) **Description of Investment, (b)** Identity of Issue, **Including Maturity Date,** (e) Current Borrower, Lessor, or Rate of Interest, Collateral, (d) Similar Party Par, or Maturity Value Cost Value (a) (In thousands) **Participants** Loans with interest rates ranging from 5% to 10% \$ 23,860 \$

^{*} Indicates party-in-interest to the Plan.

EXHIBITS

Designation of Exhibit in	·
this Report	Description of Exhibit
23	Consent of Independent Registered Public Accounting Firm

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the persons who administer the Plan have duly caused this annual report to be signed on its behalf by the undersigned thereunto duly authorized.

TI 401(K) SAVINGS PLAN

Susan E. Alberti

Chair, Administration Committee

Date: June 17, 2005

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statement (Form S-8 No. 33-54615) pertaining to the TI 401(k) Savings Plan of our report dated April 14, 2005, with respect to the financial statements and schedule of the TI 401(k) Savings Plan included in this Annual Report (Form 11-K) for the year ended December 31, 2004.

/s/ Ernst & Young LLP
Ernst & June LLP

Dallas, Texas June 17, 2005